IN THE UNITED STATES DISTRICT COURT EASTERN DISTRICT OF TEXAS MARSHALL DIVISION

HUAWEI TECHNOLOGIES CO. LTD.,

Plaintiff,

v.

VERIZON COMMUNICATIONS, INC., VERIZON BUSINESS NETWORK SERVICES, INC., VERIZON ENTERPRISE SOLUTIONS, LLC, CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS, INC., VERIZON DATA SERVICES LLC, VERIZON BUSINESS GLOBAL LLC, AND VERIZON SERVICES CORP.

Defendants.

VERIZON BUSINESS NETWORK SERVICES, INC., CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS, VERIZON DATA SERVICES LLC, VERIZON BUSINESS GLOBAL LLC, VERIZON SERVICES CORP., AND VERIZON PATENT AND LICENSING INC.

Counterclaim-Plaintiffs,

v.

HUAWEI TECHNOLOGIES CO. LTD., HUAWEI TECHNOLOGIES USA, INC., AND FUTUREWEI TECHNOLOGIES INC.

Counterclaim-Defendants.

C.A. 2:20-cv-00030-JRG

HUAWEI'S REPLY CLAIM CONSTRUCTION BRIEF REGARDING THE HUAWEI ASSERTED PATENTS

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I. '433 PATENT ANALYSIS

A. Data Blocks Containing Data Only

While a POSITA would recognize that "data blocks" are different from "control blocks," Verizon fails to justify introducing the vague terms "service data" or "control information."

B. Control Block Buffer / Data Block Buffer

Verizon argues that one buffer structure cannot satisfy both of these limitations, but that is simply not how the law works. *See Retractable Techs.*, *Inc. v. Becton*, *Dickinson & Co.*, 653 F.3d 1296, 1303 (Fed. Cir. 2011). Verizon also partially describes how these terms were amended during prosecution, but fails to identify any prior art that was distinguished or other statement of prosecution disclaimer. Indeed, the complete amendment does not support Verizon's position. Dkt. No. 98-19 at 36 ("data block buffer containing data blocks only").

C. Claim 1 Method Steps

Suppose a device receives a set of control blocks ("C") and data blocks ("D"), which can be in any order, e.g., C D D C D D D. The device can set a first identifier indicating that at least one control block is received, and a second identifier indicating that three control blocks are present, and then re-order the blocks to provide the control block group up front: C C C D D D D D. Thus, there is no logical requirement that the control blocks be placed into the control block group before setting the first and second identifiers. With respect to the third and fourth identifiers, Verizon is correct that the block type and position of a control block must be "known" before setting the identifiers for those aspects, but this only requires that the control blocks be received before setting those identifiers, not that the control blocks be re-ordered into the control block group before setting those identifiers.

II. '151 PATENT ANALYSIS

A. Using a General Framing Procedure (GFP) or other adaptation protocols

Verizon does not dispute that the phrase "or other adaptation protocols" refers to adaptation protocols other than GFP. Nonetheless, it asks the Court to limit the claims to

requiring GFP. It provides no authority indicating that a Court may strike language from a patent claim to reach such a result. This is particularly true here where the specification expressly states that the invention is not limited to GFP. '151 patent at 11:16-19.

Verizon also argues that this term must be interpreted narrowly because the claim term "mapping" already encompasses GFP. However, this term clarifies the "mapping" limitation to confirm that the claims cover GFP, but are not limited to GFP. This is an appropriate way to draft a claim. *See Bell & Howell Document Mgmt. Prod. Co. v. Altek Sys.*, 132 F.3d 701, 707 (Fed. Cir. 1997) (explaining that a claim may use multiple terms to reinforce a limitation because "defining a state of affairs with multiple terms should help, rather than hinder, understanding"). Verizon also notes that this limitation was added during prosecution, but it identifies no disclaimer indicating the it was added to limit the claims to GFP only.

B. Low-rate traffic

Verizon identifies no claim scope dispute justifying a construction for this term.

C. Transmitting the ODUk [via / in] the OTN

To the extent Verizon contends that the claims requiring "creating" an ODUk "within" an OTN, it fails to explain or otherwise support reading such a limitation into the claims.

D. Rate Rank

Verizon acknowledges that patent claims are not typically limited to embodiments known at the time the patent was filed, but it contends that this rule does not apply to standards-based claim terms. Verizon is wrong. For example, in *SuperGuide Corp v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 878 (Fed. Cir. 2004), the Federal Circuit found that the term "regularly received television signal" covered digital signals even though the standard for digital television was not finalized at the time the patent was filed. Similarly, in *Celltrace LLC v. AT & T Inc.*, No. 6:09-CV-294, 2011 WL 738927 at *16 (E.D. Tex. Feb. 23, 2011) the Court explained that the term "GSM-compatible" could encompass later revisions to the GSM standard. *See also Personalized Media Commc'n, LLC v. Motorola, Inc.*, No. 2:08-CV-70-CE, 2011 WL 4591898, at *8 (E.D.

Tex. Sept. 30, 2011) (claims not limited to version of NTSC standard at the time patent filed).¹

The one case cited by Verizon, *Promethean Insulation Tech. LLC v. Sealed Air Corp.*, No. 2:13-CV-1113, 2015 WL 11027039 at *1-3 (E.D. Tex. Oct. 25, 2015), is distinguishable. In that case, the claim at issue required "thermally insulating an object that requires a Class A standard insulation material." *Id.* The patent explained that a material is "Class A" if it passes the ASTM E84 flame retardant test. The Court found that the claims were limited to materials that passed the ASTM E84 test as written when the patent was filed because the determination as to whether a material infringes should not change over time. *Id.* Unlike *Superguide* and the present case, the *Promethean* claim term defined a specific type of material; it was not a broad term for a class of signals that could encompass later arising technologies.

E. Adapted To / Configured To

Verizon does not dispute that these terms would encompass devices that are capable of using ODU0. For example, it does not assert that its proposal would convert the apparatus claims into method claims requiring a user to perform some configuration on the products at issue. Thus, it is unclear if the parties have a claim construction dispute with regard to these terms, or whether they may ultimately have an infringement dispute with respect to these terms. In any event, no further construction is necessary for these terms.

III. '982 PATENT ANALYSIS

A. In Groups of M Bytes

Verizon does not dispute that this term refers to using an M-byte size "marble scoop." Huawei's proposed construction captures this meaning and is consistent with specification. '982 patent at 5:36-46. Whether the Court adopts Huawei's proposal or finds no construction

¹ In addition, as in *Superguide*, the '151 patent was filed while the G.709 standard was being revised to include additional rate ranks. Indeed, the patent itself proposes modifying the standard to include the additional rate rank that would later be termed ODU0. '151 patent at 4:30-5:21. Accordingly, Verizon fails to show that a POSITA would interpret this term as applying only to the rate ranks listed in the 2003 version of the standard.

necessary, Huawei requests that the Court affirm this "marble scoop" interpretation, as Verizon has taken a different position in an IPR petition.

B. LO ODU / HO OPU

This dispute is similar to the "rate rank" dispute with respect to the '151 patent.

C. Encapsulating Overhead Information to an Overhead Area of the ODTU

Verizon argues that its proposal is consistent with two prior art references. However, Verizon cites no statement from the applicant (or examiner) discussing these references during prosecution. Nor could it, the '982 claims issued without ever receiving a § 102 or § 103 rejection. Moreover, the portions of those references cited by Verizon's expert do not even contain the "embedding" or "from another protocol or layer" terms that Verizon seeks to read into the claims. Verizon also relies on a dictionary definition, but this dictionary pre-dates the '982 patent by twelve years, and it pre-dates the G.709 standard by five years. Accordingly, this extrinsic source is entitled to no weight even if it had been submitted into evidence, which it was not. Finally, Verizon argues that it is irrelevant whether Verizon's proposed construction is consistent with the G.709 standard because that document is an extrinsic source. However, a POSITA would recognize that the '982 patent is designed to improve to the G.709 standard such that it would make no sense to interpret the claims inconsistently with G.709 overhead structure.

D. Time Slot

Both sides' experts and the ITU-T (the standard-setting body for G.709) have explained that the terms "time slot" and "tributary slot" are interchangeable in the context of the G.709 standard. Dkt. No. 82-11 at ¶¶ 48-49.² Verizon's only argument in response is that the parent application to the '982 patent, U.S. Pat. App. No. 12/712,675 which issued as U.S. Patent No. 8,948,205 ("the '205 patent"), uses the term "time slot" in place of the term "tributary slot." But this proves Huawei's point. The fact that the '205 and '982 specifications are nearly identical

² In a footnote, Verizon disputes that its expert testified that these terms are interchangeable, but it fails to address the testimony at issue. *See* Dkt. No. 82-9 at ¶ 34 (referring to "time slots (known as 'tributary slots')").

except that that the term "tributary slot" replaces the term "time slot" confirms that the inventors used these terms interchangeably—they literally inter-changed them when referring to the exact same slots. Moreover, the examiner found that the time slot claims of the '205 patent were "not patentably distinct" from the tributary slot claims of the '982 patent. Dkt. No. 98-13 at 192-93.

E. Tributary Slot

Verizon does not attempt to justify its construction, instead confusing this term with the "rate rank" terms. Accordingly, the Court should find that no construction is necessary.

F. Optical Channel Data Tributary Unit (ODTU) Signal

This dispute is similar to the "rate rank" dispute with respect to the '151 patent.

IV. '236 PATENT ANALYSIS

A. client signal byte number Cn

Verizon acknowledges that this term cannot be limited to just one equation to calculate Cn (Resp. at 17, n.6), but its revised proposal is still deficient. Verizon has not established definition or disclaimer to narrow this term to particular equations. Nor can the G.709 standard's description of Cn justify this result. *See* Dkt. 82-11 (Bortz Decl.) at ¶¶ 58-59.³ Even the G.709 Standard describes Cn using narrative text, not merely as a value of a particular equation. *See*, *e.g.*, Ex. 9 at 163 (on the same page cited by Verizon, stating "cn: number of client n-bit data entities per server frame or server multiframe"); Bortz Decl. at ¶¶ 56-57.

Verizon argues that the term must be construed with the equation because the specification and claims indicate the Cn is generated according to a client signal clock and a system clock. *See* Resp. at 17-18. Rather, the opposite is true—this demonstrates that the claims already recite that the Cn is generated according to the clocks. Thus, Verizon's proposal is also

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³ Additionally, Verizon's proposal draws an equation from the "Basic Principles" section of Annex D to the exclusion of other parts of the Standard, like Section D.2 in Annex D that relates specifically to GMP in OTN and includes numerous other equations. *See id.* at ¶ 57; Dkt. 82-10 (Ex. 9, G.709 Standard) at Section D.2, 166-69. Also, Verizon's proposal remains problematic for requiring an equation that would result in a non-integer number for Cn, which must instead be an integer to be transported in an OTN frame. *See id.* at ¶ 58; *see also* Ex. 9 at 166-167.

superfluous. *See Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (rejecting construction that would render claim language superfluous). Finally, Verizon's argument against Huawei's proposal is unavailing. *See* Resp. at 18. A POSITA would understand Cn is considered on a per-frame basis. *See* Bortz Decl. at ¶ 56; *see also* Ex. 9 at 163-167.

B. if the Cn transported in the OTN frame needs to be [increased / decreased]

The specification describes embodiments and conditions when the Cn needs to be increased or decreased as compared to the value in the previous frame. *See* Bortz Decl. at ¶ 61. For example, the specification explains that a request to increase the Cn is generated when client signal data written into a buffer reaches or exceeds an upper threshold, and a request to decrease the Cn is generated when client signal data written into a buffer reaches or drops below a lower threshold. *See* '236 patent at 8:44-9:2; *see also id.* at 9:48-63, 15:48-16:5; *cf.* Bortz Decl. at ¶ 61. The specification also describes that the thresholds are reached depending on whether the system clock reading rate is relatively higher or lower than the client signal clock writing rate. *See, e.g.*, '236 patent at 8:44-9:2, 9:48-63. This disclosure informs a POSITA about the claim scope with reasonable certainty. Verizon cannot carry its clear and convincing burden to show otherwise.

C. revers[e/ing] ... values of [a/the] [first / second] series of bit positions

By reciting reversing the "values" of the series of bit positions, this term recites changing the values in each bit position, i.e., each '1' becomes a '0' and vice versa, 1101 becomes 0010.⁵ Verizon rewrites the claim to require reversing the "order" of those values, i.e., 1101 becomes 1011. *See* Resp. at 19-20; *contrast* Bortz Decl. at ¶¶ 64-65. But the claim recites reversing the "value," not the order or position of the bits. Also, Verizon relies on extrinsic evidence,

⁴ Huawei does not propose that Cn is a fixed value across all time as Verizon suggests. *See* Resp. at 18. Rather, Huawei's proposal recognizes that Cn represents the number of client signal bytes *in one frame*, and because client signals can change from frame to frame, so can the Cn value. Moreover, Huawei's proposal better aligns with the claim language and the specification. *See* Bortz Decl. at ¶ 56; '236 patent at Abstract, 3:1-6, 1:64-65; 10:24-30; 11:65-67; 14:1-19.

⁵ Verizon accuses Huawei of removing the word "series" from the claim. *See* Resp. at 19. Huawei is not. As written in the claim, reversing the values of a series of bit positions means changing the value of each bit position in a series.

"reverse" has a narrowly understood meaning that is different from the word "invert." *See* Resp. at 20 (citing Dkt. 98-7 at ¶¶ 45, 47). But the Microsoft Computer Dictionary also defines the word "invert:" "1. *To reverse* something or change it to its opposite." *See* Ex. A (emphasis added). Thus, even Verizon's own evidence undermines its interpretation and position.

D. [a / the] first series of bit positions / [a / the] second series of bit positions While Verizon fails to show that a construction is necessary (Resp. at 21, n.7), Huawei would not oppose a clarification that the first series and second series are distinct.

E. [whether] the [client signal byte number] Cn exceeds [a / the] range

While Verizon fails to show that a construction is necessary (Resp. at 21, n.8), Huawei would not oppose a clarification that the range is of a maximum value of Cn and a minimum value of Cn that depend upon the client signal type.

F. identifying the Cn is normal [in a first area]

Verizon purports to be applying a controlling definition from the specification, but its proposal does not match the cited portion of the specification. *Compare* Resp. at 22 (Verizon's proposal) *with* '236 patent at 6:56-63 (purported definition). If the Court relies on this portion of the specification, it is more appropriate to construe the longer phrase "identifying the Cn is normal in a first area in an optical channel payload unit-k (OPUk) overhead field of the OTN frame." This avoids inconsistencies and awkwardness in the claim language. Additionally, Verizon's proposal materially changes the specification. The Court instead should construe the longer phrase as "identifying, in a first area in an optical channel payload unit-k (OPUk) overhead field of the OTN frame, that the Cn value falls in a range between the minimum value and the maximum value of the acquired client signal Cn, which represents that the client signal type born by the current OPUk remains unchanged, and it is still the client signal type born by the previous OPUk." *See* '236 patent at 6:56-63 (modified to match claim language).

G. generat[e/ing] a client signal byte number Cn...

A POSITA would understand what the clocks were and how to generate a Cn "according to" the clocks. *See* Bortz Decl. at ¶¶ 80-82.6 And Huawei did not say that a value is generated according to clocks "just because the value might coincide with some parameter associated with the clocks." *See* Resp. at 23. Instead, Dr. Bortz described various techniques understood by and known to a POSITA for calculating or generating a Cn "according to" the two clocks that are not just limited to an instantaneous value. *See* Bortz Decl. at ¶¶ 81-82. Moreover, these terms are recited in claims focused on methods to transmit or on transmitting devices. *See*, *e.g.*, '236 patent at claims 1, 7, 13. But according to Verizon, the Cn must be transported before it is generated. *See* Resp. at 24. This is not logical. Still, Verizon asserts that the "specification...*never* suggests that this value will be transported in the future." *See* Resp. at 24 (emphasis added). But a POSITA would understand that the claim term is referring to the Cn "to be transported" in an OTN frame period. *See*, *e.g.*, '236 patent at claims 1, 7, 13, 6:1-13 (referring to Cbyte field that "needs *to be transported* in the OPUk-Xv frame") (emphasis added), FIG. 7 (showing logical flow from "Cn value generating unit" to "Transmitting unit" and not the other way around).

V. '505 PATENT ANALYSIS

A. Optical Channel Data Tributary Unit (ODTU) [frame] / ODTU [frame]

Verizon fails to reckon with the fact that the ODTUjk overhead structure does not have a Cn byte or a Cbyte field to allow for the mapping of Cn information. *See* Br. at 20-21; Bortz Decl. at ¶¶ 86-88; *compare* Ex. 9 at 128-31 (ODTUjk not including any Cm or Cn information) with Ex. 9 at 132-38 (ODTUk.ts including Cm or Cn information). Thus, Verizon's position conflicts with the claims, which explicitly recite mapping Cn information to an ODTU frame.

B. determining a quantity of n-bit data units of the client signal based on...

See "generating a client signal byte number Cn...." term with respect to the '236 patent.

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⁶ Verizon's proposal also introduces antecedent basis issues. See Resp. at 23, n. 10.

C. n-bit data units / n indicating the number of the multiple OPUk TSs

"[T]he same claim term can have different constructions depending upon the context of how the term is used within the claims and specification." *Aventis Pharm. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1374 (Fed. Cir. 2013). A POSITA would understand "n" to mean different things in different terms, and the specification uses the same letter in many contexts. *See* Bortz Decl. at ¶¶ 94-98. Also, "n" is not even a standalone claim term—it is a part of different terms.

D. Optical Channel Payload Unit-k Tributary Slot (OPUk TS)

See "rate rank" dispute with respect to the '151 patent.

E. mapping each byte of the second ODTU frame to at least one OPUk TS Huawei agrees that one byte is eight bits. No further construction is necessary.

VI. '253 PATENT ANALYSIS

A. Judging Terms

According to Verizon's expert, the stored record identifier must include two distinct values, one for each port. Resp. at 28. However, Dr. Almeroth fails to explain how the patent or claims require judging based on identifiers "for the port" or "for both ports", instead of simply judging based on "a fault identifier record stored in the second node," as claimed. And while the specification includes examples where identifiers are stored based on port information, none of those examples rise to the level of definition or disclaimer. Indeed, the specification contradicts Verizon's reliance those specific embodiments: "[t]he fourth Embodiment differs from the above embodiments in that: the source addresses of the fault messages are stored as a fault identifier based on the port." '253 patent at 6:54-56 (emphasis added).

B. Configured To

See the term "configured to" in the '151 patent.

C. Null

Verizon relies on a definition of a different term "null character" and the purported lack of examples in the specification. These arguments cannot override the plain claim language.

VII. '485 PATENT ANALYSIS

Because Verizon abandoned its indefiniteness assertion for this patent and failed to show that any of the remaining terms require a construction, no constructions are necessary.

VIII. ALLEGED SECTION 112(6) TERMS

Verizon asserts that the terms at issue are distinguishable from those in *Samsung*, *Canon*, etc. because the Huawei patents refer to "units," "subunits," and "modules." To be clear, the terms at issue are: "a first processing unit. . .," "decoding subunit. . .," "a first unit . . . comprising one or more processors instructed by one or more software programs," etc. Verizon fails to identify a meaningful distinction between these terms and the "control unit," and "digital processing unit" terms at issue in other cases.

Next, Verizon argues that the G.709 and G.8032 standards fail to identify sufficient structure for these terms. But what matters is whether a POSITA would understand the claim terms to refer to structure. As Huawei explained, a POSITA would be familiar with G.709 and G.8032 equipment and understand the relevant structure for these terms. Verizon's expert agrees; he testified: "A person of ordinary skill in the art would have been familiar with the various types of modules or interfaces used in an ITU-T G.709 network . . . [and] a POSITA would understand that every G.709 network interface must include, at a minimum, certain structural components [listing components, e.g., laser, buffer, processor]." Dkt. No. 85-3 at ¶¶ 88, 90. Accordingly, a POSITA would understand that these terms are not purely functional.

Verizon also argues that several patents fail to provide sufficient structure because they omit the word "processor." But this conflates the identification of corresponding structure with the threshold question of whether § 112 ¶ 6 applies in the first place. Regardless, a POSITA does not need a tutorial on basic computing concepts to understand that G.709 devices contain processors. Similarly, Verizon attempts to distinguish Huawei's patents from those at issue in *Optis*, based on conclusory expert testimony. But this testimony fails to consider the background knowledge a POSITA would have regarding G.709 and G.8032 devices. Accordingly, Verizon has failed to rebut the presumption that § 112 ¶ 6 does not apply to these claims.

Dated: November 30, 2020 Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that counsel of record is being served with a copy of the foregoing document via the Court's electronic filing system on this 30th day of November, 2020.

/s/ Bradley W. Caldwell
Bradley W. Caldwell